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AUTHOR Sweezy, Alan
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ABSTRACT

This paper discusses recent histories of labor shortages in Singapore, Japan, and several western European countries. Emphasis is upon the economic effects of severe shortages of labor. Fearing that these shortages would seriously handicap further economic progress, many people in these countries have advocated large-scale immigration or increased population growth or both. It is the author's conclusion that the existence of a labor shortage is not a valid ground for encouraging either population growth or immigration. The series of which this publication is a part is intended to increase understanding of the interrelationships between population growth and socioeconomic and cultural patterns throughout the world, and to communicate this understanding to scholars and policy makers. (Author/RM)

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LABOR SHORTAGE

AND POPULATION POLICY

Alan Sweezy

In the course of rapid economic development several countries recently have run up against severe shortages of labor. Fearing that these shortages would seriously handicap further economic progress, many people in these countries have been advocating large-scale immigration or increased population growth or both.

The most recent example of this phenomenon is provided by Singapore. Shortly before Singapore, Japan had begun to find difficulty recruiting enough labor to keep its rapid economic expansion going. And before that, Western Europe had been wrestling with the problem of labor scarcity for several years. Other countries are likely to have the same experience as their development picks up speed. In Brazil a shortage not only of skilled but also of ordinary construction labor has appeared in the São Paulo area. This, of course, has strengthened the hand of the already influential advocates of continued rapid population growth in that country.

Recent History of "Labor Shortages"

Fifteen years ago Singapore had both large-scale unemployment and a high rate of population growth. To cope with these problems its leaders launched a two-pronged drive to expand industry and to reduce the birth rate. Their efforts were extraordinarily successful in both directions. A vigorous family planning program, plus such "beyond family planning" measures as tax and rent advantages for small families, helped reduce the birth rate from 38/1000 in 1960 to 22/1000 in 1970. At the same time economic growth became extremely rapid. In the four years 1968 to 1972 both gross domestic product and manufacturing output increased more than 50 percent.[1] As a result, unemployment dropped, shortages of skilled labor appeared, and a large

number of workers began to come in from nearby Malaysia. There was every reason to think, moreover, that the shortage of labor would become more acute and with it the pressure to import labor would increase.

In a report on Singapore in 1972 Willard A. Hanna summed up the prevailing view as follows:

> The situation a mere three to five years hence could be disastrous. In projecting the growth of Singapore's industry and the increase in employment, government planners now operate on the assumption of at least an average 12 percent annual growth rate. They expect to shift from labor to capital intensive industry but even at that, they anticipate a total of about 220,000 new jobs to be filled in the year 1978. The demographers predict a total of only about 40,000 Singaporians entering the job market that year. To make up the difference, whether it is the 180,000 the graphs point to or half that number or one quarter, it is going to be necessary to import foreigners.

If this is a correct assessment of the economic outlook Singapore's leaders are faced with an unpleasant dilemma. For, as Hanna says, it will not be easy "to explain to the highly educated Singaporian public why it has been denying itself children in order to create jobs and other opportunities for alien interlopers. It will be even more difficult to explain how an environment which cannot support many more Singaporians can support more aliens too."[2]

Japan's labor shortage achieved worldwide prominence with the publication in August 1969 of an interim report of the Population Problems Inquiry Council. According to Philip Boffey's report in *Science*, aptly entitled "Japan: A Crowded Nation Wants to Boost Its Birthrate," the Council recommendations were "aimed at alleviating some potentially serious economic and social problems that are related at least in part to Japan's success in curbing its population growth. One such problem is a worsening labor shortage that threatens to undermine Japan's economic miracle."[3]

Starting, like Singapore, from a position of labor surplus in the 1950s Japanese industry had grown so fast that by the second half of the 1960s businessmen were having trouble recruiting enough workers to meet the demand for their products. The shortage of young workers, traditionally preferred by Japanese employers as a source of increased labor, was particularly marked. It was bound to get worse, moreover, as the steep decline of birth rate in the 1950s began to affect the supply of young workers in the 1970s. Although the Council's policy recommendations were actually very cautious, they had a strong psychological impact. The suggestion, publicly endorsed as it was by the Prime Minister and heavily emphasized in the mass media, that a nation so overcrowded and suffering such severe

environmental problems as Japan should take measures to increase its birth rate, came as a shock to many people both at home and abroad. Family planning advocates in particular were afraid that such action would discourage worldwide efforts to promote birth control. Up to that time Japan had been cited as a shining example of the beneficial effects of declining fertility on economic expansion. Now it was being suggested that a drop in fertility might go too far and actually undermine future economic prosperity. This could only strengthen the opposition to birth control and discourage its proponents.

Shortage of labor had already become a major cause for concern in most Western European countries by the mid 1960s. A combination of earlier low birth rates, longer schooling, and improved retirement schemes had produced small or even negative growth of the domestic labor force in these countries. At the same time production had been growing at a rapid rate. In response to the resulting excess demand for labor, foreign workers had been coming into Western Europe in large numbers. Switzerland is the most extreme case. By 1964 foreign workers were 30 percent of the labor force. In West Germany and in France the percentage was much smaller but the absolute number was large and increasing rapidly. By 1970 two and a half million foreigners were working in Germany and nearly two million in France.

As in the case of Singapore and Japan, the prevailing view in Western Europe is that the labor shortage will continue and perhaps become worse in the course of the next decade. In his report on *International Migrations and European Community* Jon McLin, summarizing the replies of the Common Market countries to an OECD questionaire, says: "It is clear that the governments of north-west European countries judge continuing, large-scale immigration to be a necessity for the foreseeable future."[4]

The Economist in a special August 1973 report on the problems associated with Europe's "Reserve Labour Army" says: "According to United Nations calculations, Western Europe will need a further 4 million migrant workers by 1980 to keep its economy going. Can it cope with them? The main European importers of labour–Germany, France and Switzerland–have all started worrying about 'thresholds of tolerance' of foreign labour and looking for ways to stabilize numbers."[5]

Business Week in a similar special report, "Europe's Imported Labor Force Begins to Cost More," accepts the common view that "Western Europe's booming economy might cease to boom–and, in some industries, to function–without foreign workers. . . .The *Patronat*, France's employers' association, predicts that under current operating methods Western European industry will have an even larger manpower deficit in the next decade than it did in the last. Government recruitment expert William Widenborner refuses to choose among estimates that add from half a million to several million to West Germany's 2.4 million foreign workers in the next ten years. 'In the past

all estimates have proved too low,' he says, 'no one really knows except that the line will be up.' "[6]

On the basis of an elaborate study of European labor market trends, Luisa Danieli of the Economic Commission for Europe concludes that the industrialized western countries will have a labor deficit in 1980 of from 5 to 13 million workers. Commenting on Danieli's work Professor Massimo Livi Bacci says:

> With all due caution in interpreting the data reported here, there is no doubt that the present tensions on the labour market will continue to exist, and perhaps get worse during the next ten years. Therefore, the countries of Europe, whether countries of immigration or emigration, must not be deceived into believing that the problem is a result of economic cycles, or that it is a problem that can easily be adjusted by legislation. Labour shortages and surpluses are essentially the result of different birth rates during the past, which are reflected in the different rates of natural increase of the labour force, and the flow of manpower away from agriculture into other sectors. The former is a problem which even if attacked at the roots with effective measures to raise or lower the birth rate, as the case may be, can only start to give results after twenty years. The rural exodus, too, up to a certain point is a phenomenon which cannot be prevented, as it is caused not only by economic factors but also by psychological factors which cannot be controlled. Therefore, neither of the two problems can be much influenced by changes in the demographic, social and economic policy of the various countries, at least in a short period. They will continue to have a considerable effect during the next decade, and pose growing problems, both for the countries of emigration, and those of immigration.[7]

In Western Europe, as in Japan and Singapore, further growth of population, whether through natural increase or immigration, can only accentuate already serious problems of pollution and congestion. This—along with the social and political tensions attendant on large-scale immigration—has given rise to a sharp difference of opinion as to the wisdom of promoting or allowing further labor force growth. "At bottom the disagreement is one of priorities. Those who regard economic expansion as the greatest good want more bodies to man the assembly lines. Those who are worried about overcrowding are willing to sacrifice some economic growth in return for more living space."[8]

Like the other statements quoted above this assumes that the need for more labor is real, i. e., that some sort of economic sacrifice will be involved if the labor supply is not increased. It is time to subject this assumption to a critical examination.

Economic Effects of Labor Shortages

First, we must note a basic point in economics. A shortage of labor, or anything else, is always a product of the relation between supply and demand and not a function of supply alone. Noneconomists are inclined to assume with Professor Livi Bacci that labor shortages are the result of a slow rate of natural increase of the labor force which, in turn, is a reflection of low birth rates in the past. But this is clearly a one-sided view. It assumes implicitly that demand is immutable, determined by external forces which are independent of population growth or economic policy. Actually, of course, demand is a variable. It is affected by the size and rate of growth of population as well as by governmental decisions about spending, taxation, and the supply of money.

Demand for labor can be viewed in two different perspectives. One focuses on social need. Aside from the possibility of increasing returns to scale, a country never needs more labor than it has. The essential purpose of production is to satisfy the needs and wants of consumers. But producers are, of course, also consumers. Hence an increase in the number of producers, i.e., in the size of the labor force, also increases, by exactly the same amount, the number of consumers. On balance neither producers nor consumers are better off. It is fallacious to project the "need" for labor without also projecting the size of the population the labor is going to be a part of. (This abstracts, of course, from the effects of changes in age composition.)

The more knowledgeable participants in the debate in Western Europe recognize this relation. W. H. Böhning, one of the strongest advocates of continued labor force growth through immigration, says that once the "mature" stage of immigration has been reached, i. e., the immigrants have been integrated into the host society, the increased consumption of the additional workers tends "to nullify the desired satisfaction of labour demand and each foreign worker induces the demand for another one. In this sense economic migration is truly self-feeding."[9]

Confusion arises in part from a failure to distinguish between total and per capita production. Livi Bacci says, for example, "stationary population also means a limitation of the available human resources and in the end a check to economic growth. This is a bitter price that only a few countries are willing to pay."[10] And M. Joseph Fontanet, Minister of Labor, Employment and Population in France, expressing a characteristic French view, states without qualification, "Our active population has begun to grow again after a long period of stagnation. This fact . . . is extremely beneficial for the country's development . . . ."[11] Neither of these writers specifies whether he is talking about growth of total output or of output per person (or per worker). Total output will no doubt grow faster with a growing than with a stationary labor force. But maximizing total output is scarcely a sensible goal

of economic policy. Aside from military considerations—themselves of dubious validity in a nuclear age—the goal, as already indicated, should be to satisfy individual wants and desires. Merely increasing the number of both producers and consumers does nothing to increase the welfare of any of them. It may even have a negative effect since in an already densely populated country it increases the amount of congestion and pollution each of them has to put up with.

The long-run growth of an economy can occur with a smaller or greater degree of slack within the system at each stage in the growth process. How much slack exists will depend on the relation between aggregate money demand and the economy's short-run ability to supply the goods and services demanded. Viewed in this perspective a labor shortage is merely one aspect of an overall shortage of supply in relation to demand. It can always be relieved by curtailing demand through the use of monetary and fiscal measures. Recent U.S. history provides an interesting example: From 1957 to 1963 the growth of the labor force was relatively slow (800,000 per year), while labor was relatively abundant (unemployment averaged 6 percent). From 1965 to 1969, labor force growth was much larger (1,600,00 per year), but the labor market was unusually tight (3.7 percent average unemployment). Then, in the interest of combating inflation, the Administration for a while used fiscal and monetary policy to create a bit more of a labor surplus.

Curtailing demand is generally rejected as a solution, however, by those who recognize its existence. M. Fontanet, for instance, states emphatically that

> Employment policy must clearly reject all thinking based on the view that . . . some margin of unemployment is essential to ensure wage and price stability. The French Government stated this categorically in the report to Parliament on the options of the VIth Social and Economic Development Plan and confirmed it in the final text of the VIth Plan by choosing a high growth rate to allow for full employment of the labour force, maintaining the proportion of the active population out of work at about 1.5 percent of the total, in average economic conditions, this being confined to frictional short-term unemployment and to certain particularly difficult cases (handicapped and older workers) for whom specific measures are provided elsewhere.[12]

The Economic Development and Review Committee of OECD in its Annual Survey on Japan (June 1971) says that to try to master inflationary pressures by an overall demand restraint "would imply a price in terms of foregone growth and welfare that would probably be unacceptable . . . ."[13]

Böhning likewise rejects curtailment of demand as a means of relieving the shortage of labor available for the less desirable jobs. He points out that it

might not even be very effective for achieving this particular objective when "unemployment benefits are far above subsistence levels and often not very different from the wages paid in undesirable jobs."[14] The only acceptable solution, he maintains, is to continue to import foreign workers who are willing to take such jobs.

It thus appears that those who worry about a labor shortage do not really want to get rid of it. This is perhaps less true of businessmen who might be glad to have a little slack in the labor market even at the cost of some reduction in sales. But economists, government officials, trade unionists and the like are generally committed to a policy of full employment and maximum short-run production which rules out the use of demand restraints to relieve tightness in the labor market.

What then is left of the case for promoting labor force growth through immigration or measures to raise the birth rate? The case rests squarely on the contention that *per capita* economic growth will actually be greater with a growing labor force than without it. The presumption in economics has always been the opposite, i.e., that output per worker will increase faster with a stationary than with a growing labor force. The reasoning is that with a given saving to income ratio—which, if it changes at all, should increase with slower population growth—less capital is required to outfit additional workers with the instruments of production and more is therefore available to provide better instruments for the existing number of workers. This conclusion is generally accepted in discussion of the problems of the less developed countries. In their case it is usually conceded that population growth "wastes" part of the capital which could otherwise go to raising productivity.

Economists who have participated in the debate in Western Europe are divided as to the validity of this theory with respect to the growth of the Western European economies. One group has stuck to the neoclassical position that slow or zero growth of the labor force permits more rapid increase in capital per worker and hence in productivity. Their opponents, the advocates of labor force growth, argue that with an elastic labor supply the growth process will be smoother and that this will outweigh any benefit that might be derived from higher capital intensity. They put great emphasis on the advantages of flexibility in the labor market, on the one hand, and on the difficulties of structural readjustment necessitated by a rising capital-labor ratio, on the other.

Charles Kindleberger, who attracted much attention in the late 1960s by his espousal of the advantages of growth with "unlimited supplies of labor," says: "Once the dynamic process has started . . . it depends on supply, the steady expansion of capital and labor, and the absence of bottlenecks which would throw the expansion process into reverse or, more typically, into a slower forward gear."[15]

Böhning, author of the OECD Working Party's report on migration, says:

"It is its general labour market effect which reveals the greatest value of labour import. By this we mean the greater elasticity or the introduction of the highly desirable and beneficial element of flexibility during both the upswing and the downswing, and in some regions, industries or occupations . . . .Whereas in the past the growth of the working population represented a considerable mobility potential, the slow growing, stagnating or even decreasing working population of contemporary Europe do not fulfill this function to the same extent."[16] And again, "the smooth growth of the economy under labour import compared with friction in a closed labour market ensures a higher real growth of wages in per capita terms . . . ."[17]

In a rapidly growing economy with a rising standard of living there are bound, of course, to be problems of adjustment. One that has attracted much attention, especially in Europe, is the unwillingness of domestic workers to take the "dirty" jobs, at least at the low wages that usually go with them. "Individuals are coming to expect more from their work. The higher educational level leads people to refuse certain lower-grade jobs both in the industrial and in the service sectors. The consequence has been a very noticeable speeding up in the influx of workers from abroad to take jobs whose conditiions, hours, laboriousness or relative levels of pay are turning more and more workers away."[18] Without the immigrant workers employers would have to pay higher wages or spend money making the jobs more attractive[19] and as a result consumers would have to pay more for the services or products involved. It is obviously easier to deal with the problem by bringing in workers from countries with a lower standard of living. There must be a continuous stream of new arrivals, however, since after they have been in the host country a few years the immigrants begin to develop the same attitudes toward work and toward consumption as those of the native population. It should also be noted that increase of the domestic labor force through population growth would not have the same advantages as immigration in solving this problem.

Another difficulty arises out of the fact that capital investment is likely to proceed at an uneven pace. In some cases capital goods may be built ahead of recruitment in anticipation that an adequate supply of labor will be available. If this expectation is disappointed and employers have trouble finding—or retaining—enough labor to operate the new plant they will incur losses and further investment will be discouraged. A recent example is provided by the Yugoslavian tourist industry which had to contend with a drain of workers to the higher wage countries of Western Europe:

> Labour emigration has been the cause of great problems for the Yugoslav tourist trade over the past two years. During this period, many large new hotels have been built on the coast and many more are under construction at the moment. The operation of these hotels will call for numerous

> catering staff. But many of the young people who have taken training courses in the hotels stay on there for one season only and leave immediately afterwards for foreign countries where they can easily obtain jobs and earn much more.[20]

In Singapore a tourist boom, with a heavy demand for labor in the construction and operation of hotels, shopping centers, and restaurants, came on top of an upsurge in electronics and textiles in late 1971 and early 1972. The result was a sharp increase in the difficulty of obtaining enough labor to meet these new demands.

Many types of capital investment involve considerable lead times for planning and construction. Unless they have assurance of an adequate labor supply at reasonably steady wages investors may be reluctant to make commitments. Several U.S. firms recently thought of building major new production facilities in Singapore but finally decided in considerable measure because of the well-known labor shortage there, to choose other locations. Although the cause of the shortage is the prevailing prosperity, businessmen and government planners cannot help worrying about the danger that discouragement of new investment might overshoot the mark and throw the economy into a tailspin. In a sense these are all short-run problems but, as Böhning says, the long run consists of a series of short runs.[21] He and Kindleberger and many others are convinced that the succession of short-run difficulties will add up to a retardation of growth in the long run as compared to what would happen with a steadily expanding, and hence more flexible, labor supply.[22]

One of the best statements of the contrary view, i.e., that successful adaptation to a rising capital/labor ratio with a closed labor market is possible is found in Ingvar Svennilson's evaluation of Sweden's long-term planning which appeared in the *Skandinaviska Banken Quarterly Review* in 1966.

> An increase in immigration would clearly make it possible to slow down the trend toward more capital-intensive production . . . . Such an argument for a general increase in immigration is, in my opinion, defeatist. The trend we have experienced in certain industries, for example, in the distributive trades, shows that it is possible for production rapidly to develop in a more capital-intensive direction. This has taken place in areas where, under conditions of competition, the free formation of prices has been allowed to have its own ruthless but beneficial way.[23]

Who is right? What empirical evidence is there to support either of these opposing views? For the most part we are forced to rely on crude comparison of rates of productivity increase and labor force growth in different countries. Kindleberger claims to have demonstrated a positive relation between the two

Table 1. Labor Force and Labor Productivity Growth Rates (in percentages)

	1959-63*		1963-70†	
	Labor Force	*Labor Productivity*	*Labor Force*	*Labor Productivity*
Austria	-0.1	5.2	-1.3	6.6
Belgium	0.5	3.3	0.7	4.2
France	0.7	5.1	0.9	4.7
Germany	0.8	4.6	0.1	4.7
Italy	0.1	6.1	-0.4	5.7
Netherlands	1.4	3.7	1.0	5.0
Sweden	1.2	2.6	0.6	3.7
U.K.	0.9	1.7	-0.1	2.9

**Source:* Charles P. Kindleberger, *Europe's Postwar Growth: The Role of Labor Supply* (Cambridge: Harvard University Press, 1967), p. 27

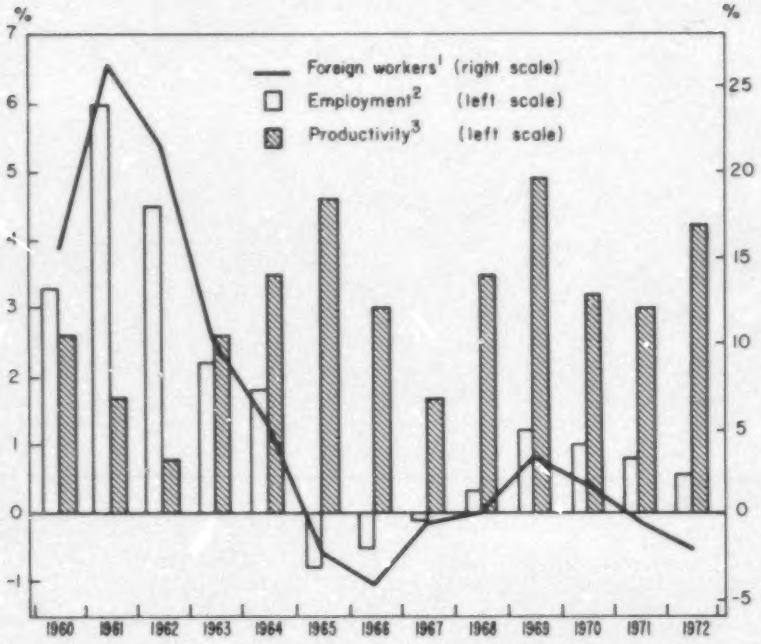
†*Source: U.N. Statistical Yearbook, 1972;* OECD, *Labour Force Statistics, 1960-71*

for Europe in the period 1959-63. The evidence provides little support for his thesis. It provides even less in the period 1963-70. Table 1 shows productivity and labor force growth rates for Kindleberger's eight countries from 1959 to 1963 and from 1963-70. In the latter period, the two countries with the highest rates of productivity growth, Austria and Italy, show a *decrease* in the size of the labor force. Germany had a high rate of productivity increase with virtually no change in the size of the labor force. Perhaps even more important, there was generally an acceleration from the early to the late sixties of the rate of productivity increase along with a slowing down of the growth of the labor force.

As a further test we would like to find a country which had deliberately taken steps to cut down the flow of labor available to its economy. How difficult did the adjustment turn out to be? Was there a slowing in the per worker growth of output?

Actually, Switzerland provides just such a case study. In the 1950s and early 1960s the Federal authorities adopted a very liberal attitude toward immigration and foreign workers entered the country in increasing numbers. By 1963 they contributed, as pointed out above, 30 percent of the labor force. Disturbed by the social and political difficulties of absorbing such a large number of foreigners the Swiss government shifted to a restrictive policy. "The measures taken in 1963 and notably since 1964 succeeded in

Graph 1. Employment and Productivity 1960-72
(percentage changes from previous year)



Sources: Bureau Fédéral de Statistiques, *Annuaire Statisque de Suisse; La Vie économique* and OECD, *Labour Force Statistics. 1959-1970.* Reproduced from OECD, Switzerland, OECD Economic Surveys (Paris: OECD, 1973), p. 24, by permission

1. Total foreign workers; average of August and February figures until 1969 and August and April figures since then. The percentage change in 1969 is estimated by using the average August-February 1968 and the April 1969 figures. 2. Mid-year estimates 2. Real GDP per employed

checking the former strong inflow of foreign workers." The net intake of foreign workers "dropped to about 1 percent in 1964 and has probably become marginally negative in the following three years."[24] These restrictive measures were taken on social and political grounds and in spite of misgivings on the part of businessmen and some economists about their economic consequences.

What actually happened is shown with dramatic clarity in graph 1

reproduced from the OECD Economic Survey of Switzerland, March 1973. The influx of foreign workers and with it the annual increment in employment was drastically reduced after 1964. The effect on the economy seems to have been wholly favorable. Unemployment continued to be negligible.[25] Output per worker rose much more rapidly than it had in the preceding period of large-scale immigration and rapid growth of the labor force.

Commenting on this development the OECD Survey says:

> The slow increase in employment since 1964 has been accompanied by larger productivity gains and it is very likely that the lower supply elasticity of labour induced enterprises to adopt investment programmes aimed at substituting capital for labour. In fact, the repercussions on employment and productivity of the less ample labour supply since 1964-65 were particularly important in those industries which had most heavily drawn on foreign workers during the early 60s. The same industries improved markedly their productivity performance, reflecting an increased rationalisation effort, the full necessity of which had probably not been felt in a period of ample labour supply.[26]

Conclusions

We have seen that in a number of countries enjoying rapid economic growth, worries about inadequacy of the labor supply have been widespread in recent years. Hanna reported fear of a depression in Singapore if the supply of Malay workers were interrupted; Boffey reflected concern lest shortage of labor undermine Japan's "economic miracle"; Livi Bacci thought the sacrifice of growth in Western Europe would be a "bitter price" to pay for reducing immigration; Fontanet considered it self-evident that renewed growth of France's active population would be "extremely beneficial" for the country's development; Kindleberger was worried that an interruption of the labor supply would "throw the expansion process into reverse" or, at least, into a "slower forward gear"; and Böhning states his conviction that "if immigration were suddenly to stop, tensions on the labour market would rise, bottlenecks would appear in greater numbers, and before long wage growth would be reduced."[27]

Experience in Western Europe in general and in Switzerland in particular suggests these worries are unfounded. There is no evidence that a reduction or even a cessation of the increase of the labor force has had an adverse effect on the functioning of the economy. On the contrary, the facts give strong support to those economists who have been maintaining that economic growth measured in per capita terms—the only terms that are meaningful for

human welfare—will be more rapid with a slow, or zero, growth of the labor force.

So far we have considered a labor shortage in terms of people's needs and wants, and also in terms of the relation between productive capacity and the level of money demand. There is still a third way of viewing a labor shortage, namely, in terms of the relation between the supply of labor and the supply of capital. If capital is growing rapidly, while labor is growing slowly, or not at all, labor will be scarce and real wages will rise more rapidly than would otherwise be the case. It should be obvious that in this sense a shortage of labor is the same as an abundance of capital. Surely no democratic government, if it understood clearly what it was doing, would attempt to keep capital from becoming more abundant relative to labor.

In conclusion, it should be clear that the existence of a labor shortage is not a valid ground for encouraging either population growth or immigration. In the first place, the shortage is a product of the relation between demand and supply and not of supply alone. It can always be relieved by restricting demand. If governments reject this solution, preferring to keep the labor market tight in the interest of maximum current production and employment, the issue becomes one of long-run growth. The proponents of labor force growth rely on the argument that it is essential for the growth of economic activity as a whole. In part, this argument rests on a failure to distinguish between total and per capita output. Aside from highly questionable considerations of military power, the goal of economic activity should always be to maximize per capita, not total, production. The economically more sophisticated advocates of population growth or immigration fall back on the alleged benefits to the growth process of an elastic supply of labor. There is little support, however, either in economic theory or in such statistical evidence as we have for this contention. On the contrary, what evidence we have suggests that production per worker actually grows faster with a stationary than with a growing labor supply.

Notes

1. Department of Statistics, *Yearbook of Statistics: Singapore 1972/73* (Singapore: Government Publications Bureau, 1973), p. 1.
2. Willard A. Hanna, *Singapore Success Syndrome Retested, Part I: Advances and Reverses*, American Universities Field Staff Southeast Asia Series, vol. 21, no. 3 (Hanover, New Hampshire: American Universities Field Staff, 1973), p. 6.
3. Philip M. Boffey, "Japan: A Crowded Nation Wants to Boost Its Birthrate," *Science* 167 (1970): 960. See also F. Roy Lockheimer, *Japan's New Population Politics*, American Universities Field Staff East

Asia Series, vol. 17, no. 5 (Hanover, New Hampshire: American Universities Field Staff, 1970), pp. 1-12.

4. Jon McLin, *International Migrations and the European Community*, American Universities Field Staff West Europe Series, vol. 7, no. 1 (Hanover, New Hampshire: American Universities Field Staff, 1972), p. 3.
5. *The Economist* (August 25, 1973): 49.
6. *Business Week* (March 31, 1973): 94, 99.
7. McLin, *International Migrations*, pp. 6-7.
8. Boffey, "Japan: A Crowded Nation": 962.
9. W. R. Böhning, "The Economic Effects of the Employment of Foreign Workers: With Special Reference to the Labour Markets of Western Europe's Post-Industrial Countries," Organisation for Economic Co-Operation and Development (OECD) working document MS/M1404/415 (Paris: OECD, 1973), p. 13.

   Egon Tuchtfeldt makes the same point in his discussion of the effects of immigration on the Swiss economy: "So kommt es schiesslich dazu, dass ein wachsender Teil dieser Arbeitskräfte damit beschäftigt ist, das Guterangebot fur die eigene Nachfrage herzustellen." [So ultimately a growing segment of these laborers becomes involved in producing goods to satisfy its own demands.] "Das Problem der auslandischen Arbeitskräfte in der Schweiz," *Wirtschaftsdienst* XII (1965).
10. M. Livi Bacci and H.-M. Hagmann, "Report on the demographic and social pattern of migrants in Europe, especially with regard to international migrations." in *Council of Europe Second European Population Conference*, Strasbourg, 31 August - 7 September 1971, official documents of the Conference, vol II, p. 80.
11. OECD, *Manpower Policy in France*, Reviews of Manpower and Social Policies, no. 12 (Paris: OECD, 1973), p. 23.

    According to the *Economist* "Immigrants were one answer to de Gaulle's constant complaint that France's static population was depriving it of power." *The Economist* (August 25, 1973): 52.

    In its report on Japan the OECD criticizes the idea that growth of total output is a valid goal of policy: "In popular presentations it is common to say that when the attainment of full employment makes it impossible to increase economic growth by increasing labour input, then productivity must be raised or provision made for immigration. In this form the argument implies that growth of GNP is a goal in itself." OECD, *Manpower Policy in Japan*, Manpower and Social Policies, no. 11 (Paris: OECD, 1973), p. 111.
12. *Manpower Policy in France*, pp. 23, 24.
13. *Manpower Policy in Japan*, p. 120. See also note 11 above.
14. Böhning, "The Economic Effects of the Employment of Foreign

Workers," p. 8.

15. Charles P. Kindleberger, *Europe's Postwar Growth: The Role of Labor Supply* (Cambridge: Harvard University Press, 1967), p. 4.
16. Böhning, "The Economic Effects of the Employment of Foreign Workers," p. 32.
17. Böhning, "The Economic Effects of the Employment of Foreign Workers," p. 45.
18. *Manpower Policy in France*, p. 23.
19. "A couple of short verbal reports were given from America: Firstly, because of lack of workers, a particular town had great problems in disposing of its garbage, which was carried for short distances on the backs of the collectors; as soon as these were given scooters there was a waiting list for the job. A slight change in the paraphernalia of job status transformed the public's perception of it and hence the social status of those who did it." From *The Emerging Attitudes and Motivations of Workers*, report of a Management Experts' Meeting, Paris, 24-26 May, 1971 (Paris: OECD, 1972), p. 29.
20. Bernard Kayser, *Cyclically-Determined Homeward Flows of Migrant Workers and the Effects of Emigration* (Paris: OECD, 1972), p. 30.
21. Böhning, "The Economic Effects of the Employment of Foreign Workers," p. 55.
22. The OECD Secretariat cites F. Schaller as one of the writers who believes strongly in the benefits of population growth. "This author bases his thesis on two arguments: (a) it is only possible to draw maximum advantage from technical progress where one can count on a more numerous population, (b) Switzerland is an under-populated country . . . Ergo, concludes this author, Switzerland has need of more immigration." It points out that in this respect "Schaller refers expressly to Sauvy." From an introductory note by the Secretariat, "Research into the Economic Consequences of the Employment of Foreign Workers," document no. MS/M/404/441 (Paris: OECD, 1973), p. 24.
23. I. Svennilson, "Swedish Long-Term Planning: The Fifth Round," *Skandinaviska Banken Quarterly Review*, no. 2 (1966).

    Tuchtfeldt takes the same view of the benefits of structural readjustment with a rising capital/labor ration as Svennilson: "Die wachstumsnotwendigen Wandlungen in der Branchen- und Betriebsstruktur, insbesondere die fortlaufende Substitution von Arbeit durch Kapital, sind infolge der leichten Bescharfbarkeit weiterer Fremdarbeiter nicht in dem masse okonomisch erzwungen worden, wie es sonst der fall gewesen wäre." [The changes in economic structure necessary for growth, especially the continuous substitution of capital for labor, have—because of the easy availability of more foreign laborers—not been forced to the same extent as would otherwise have been the case.]

Wirtschaftsdienst XII (1965): 645.
24. OECD, *Switzerland*, OECD Economic Surveys (Paris: OECD, December 1967), pp. 9, 10.
25. OECD, *Switzerland*, OECD Economic Surveys (Paris: OECD, March 1973), p. 19.
26. OECD, *Switzerland*, OECD Economic Surveys (1973), pp. 25, 26.
27. Böhning, "The Economic Effects of the Employment of Foreign Workers," p. 42.

The Author

Alan Sweezy obtained his B.A. in history in 1929 and his Ph.D. in economics in 1934 from Harvard. He taught economics at Harvard from 1934 to 1938 and at Williams from 1940 to 1947. In between he was in the Division of Research and Statistics of Federal Reserve Board in Washington. Since the fall of 1949 he has been at Caltech, where he is professor of economics and associate director of the population studies program. Dr. Sweezy became interested, during the depression of the 1930s, in the role of population growth in the Keynesian theory of employment and income. He wrote several articles dealing with this subject, including "Population Growth and Investment Opportunity," which appeared in the *Quarterly Journal of Economics*, November 1940. In recent years he has returned to the study of population and since the spring of 1968 has given a course at Caltech on population problems. He has written several papers on the causes and consequences of population growth: "The Economic Explanation of Fertility Changes in the United States," *Population Studies*, July, 1971; "Population, GNP, and the Environment" in *Are Our Descendants Doomed?*, Viking Press Inc., 1971; "The Economic Meaning of a Labor Shortage," *Science*, 3 July 1970. In addition to his academic work on population problems Dr. Sweezy has been active in organizations dealing with family planning and population growth. He is past president of Pasadena Planned Parenthood and is currently chairman of the board of directors of Planned Parenthood-World Population. He is also a member of Zero Population Growth and has spoken and written on the economic implications of a stable population.